

Remarks

In the final Office Action mailed July 28, 2005:

1. The claims were denied the benefit of the effective date of the priority document;
2. Claims 1 and 2 were rejected under 35 U.S.C. § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention;
3. Claim 15 was apparently rejected under 35 U.S.C. § 101;
4. Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Sagar-SYSCON ("JT Router: Let your clients tunnel their way across the internet") in view of Cathey-AT&T (U.S. Patent No. 5,778,212) and Guedalia-Roxio (U.S. Patent No. 5,535,878);
5. Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Sagar-SYSCON, Cathey-AT&T and Guedalia-Roxio, in view of Rueda-Telecom-Research Laboratory (U.S. Publication 2002/0112076);
6. Claims 3 and 5-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sagar-SYSCON, Cathey-AT&T and Guedalia-Roxio, in view of Geagan-Blue-Coat-Systems (U.S. Patent No. 6,735,634);
7. Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Sagar-SYSCON, Cathey-AT&T, Guedalia-Roxio and Geagan-Blue-Coat-Systems, in view of "Official Notice"; and
8. Claims 16-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sagar-SYSCON, Cathey-AT&T, Guedalia-Roxio and "Geagon III" (assumed to mean Geagan-Blue-Coat-Systems), in view of "Official Notice".

I. Rejections under 35 U.S.C. § 112 ¶ 2

The Examiner stated that there is insufficient antecedent basis for the claim 1 limitation stating "the execution of tasks involved by said event consumers." The Examiner is asked to read the second element of claim 1, which states "... wherein each of said sockets in said first plurality of sockets is associated with an event consumer ..." (emphasis added). This indicates the presence of multiple event consumers for the first plurality of sockets, and provides

antecedent basis for “said event consumers.”

The Examiner also stated that there is insufficient antecedent basis for the claim 2 limitation stating “each of said sockets in said second plurality of sockets”. The claim language immediately preceding that limitation states “registering a second plurality of sockets with said polling module...” Applicants assert that “a second plurality of sockets” clearly refers to plural sockets and provides sufficient antecedent basis for “said sockets in said second plurality of sockets”.

II. Priority Claim

Applicants object to the Examiner’s mischaracterization of their response to the Examiner’s denial (in the first office action) of the effective date of the priority document. Applicants’ have not acquiesced in the denial of priority. Applicants’ response to the denial, put forth in their April 18, 2005 reply, stated:

Applicants reserve the right to rebut at a later time the Examiner’s assertion that the claims do not benefit from the effective date of the priority document. It may be noted that, in paragraph 2 of the Office Action, the Examiner identified Application No. 09/828,052 as the priority document; however, the cited application is the application being examined. The priority document is Provisional Application No. 60/195,756.

Applicants rebut the assertion that claims of the present application do not benefit from the effective date of the priority document and believes the priority date is earned as long as some subject matter of the priority document is employed in the application.

For example, new claims 24-30 identify specific protocols employed in a media streaming server. The server may be configured as described in the priority document (e.g., pages 17-31).

III. Sagar-SYSCON (Ajit Sagar, “JT Router: Let Your Clients Tunnel Their Way Across the Internet)

Sagar-SYSCON presents a JTunnel process executing on an intermediate JTRouter server, to channel data from a remote host to a trusted client (page 1, lines 46-47). Each JTunnel

thus acts as a server for a trusted client at the same time that it acts as a client to the remote host. Figure 1 of Sagar-SYSCON illustrates different dedicated JTunnels established for each of Client1 and Client2. Each JTunnel includes a host-side socket and a client-side socket and simply passes anything received at one side of the JTunnel out the other side.

A. Sagar-SYSCON Does Not Share a Thread for Polling Sockets

In claimed embodiments of the present invention, sockets are polled and, for purposes of polling, one processor thread may be shared among a plurality of sockets serving multiple clients (e.g., the sockets registered with a polling module or polltable).

The Examiner asserts that Sagar-SYSCON's "concept of using the same process" is equivalent. Applicants traverse. In Sagar-SYSCON, "JTRouter allows a machine to initiate as well as accept Internet connections in independent threads" (page 1, lines 12-14; emphasis added), meaning that they do not share a thread. This statement was apparently disregarded in light of the subsequent sentence indicating that client and server roles are performed in the same process.

In addition, it is meaningless that the client and server roles are implemented in the same process, as these roles refer to the roles played by a JTunnel while serving a single trusted client. As described above, the "single process" merely passes data received at one end of a JTunnel out the other end, and only serves a single client (e.g., Client 1 or Client2 in Figure 1). The polling performed in an embodiment of the present invention is performed over multiple sockets serving multiple clients.

Therefore, even if a single JTunnel comprises a single process, Sagar-SYSCON specifies that each JTunnel and each trusted client is serviced by an independent thread, thereby teaching one to use separate threads for each client. This directly contradicts Applicants' invention as claimed, and serves as another example of a problem Applicants' solve with the present invention – the use of dedicated resources to each client. Dedicating resources to each client does not scale well when large numbers of clients need to be served.

B. Sagar-SYSCON Does Not Associate Sockets with Event Consumers

In claimed embodiments of the present invention, sockets are associated with event consumers. Different event consumers may be associated with sockets for different purposes

(e.g., for listening, for handling media streaming commands, for media quality control).

The Examiner most recently cited page 2, lines 16-28 of Sagar-SYSCON as teaching this aspect of Applicants' invention, and stated "usage of multiple sockets for connection handlers." The cited portion of Sagar-SYSCON was reviewed, but no reference to connection handlers or event consumers was found. The cited portion appears to merely identify methods for connecting a JTunnel to the remote host and identifying a socket on the remote host, and therefore does not appear to address the subject matter it supposedly teaches.

Previously, the Examiner cited data stream objects of Sagar-SYSCON as teaching this subject matter. However, Sagar-SYSCON specifically states that the PipedInputStream and PipedOutputStream classes are *stream*-based classes, not socket-based classes (page 2, lines 30-34). Thus, the data stream objects are associated with streams or perhaps pipes, *not* sockets.

Therefore, it appears that Sagar-SYSCON does not teach the association of event consumers with sockets.

IV. Geagan-Blue-Coat-Systems (U.S. Patent No. 6,735,634)

Geagan is directed toward a Method for Real Time Protocol Media Recording (title). In particular, Geagan attempts to solve the problem of data loss incurred during downloading of streaming content (column 7, lines 45-47).

A. Geagan Does Not Host Connections with Multiple Clients with One Socket

In a claimed embodiment of the present invention, one socket (e.g., at a server that streams media) may be used to host simultaneous connections to multiple clients. This is described in the carryover paragraph of pages 11-12 of the present application.

Two portions of Geagan were cited against this subject matter. The first (column 8, lines 50-67) addresses the general goal of Geagan and describes how a proxy is placed between a content source and one or more clients. There is no suggestion of using a single port on the proxy to stream the content to multiple clients simultaneously. Although the proxy may indeed stream data to multiple clients, text following the cited portion of Geagan appears to indicate that the clients are served in serial order, not simultaneously. A "shared" data stream may "be provided from the proxy to later requesting clients" (column 9, line 8).

Even in a portion of Geagan in which multiple users are connected to the proxy (column 10, lines 1-16), there is no description of using a single socket to host simultaneous connections to multiple clients.

The second cited portion of Geagan (column 3, lines 34-48) appears unrelated to the aspect of Applicants' invention against which it was asserted; it merely describes a portion of an RTSP session in which a media description is retrieved.

V. Rueda-Telecom-Research-Laboratory (U.S. Publication 2002/0112076)

Rueda is directed toward an Internet Protocol-Based Computer Network Service (title). In particular, Rueda describes a service that allows computers to access IP-based services over a network even if not configured for the protocols of that network (Abstract).

A. Rueda Requires Separate Threads for Different Sockets and Therefore Does Not Teach one to Share a Thread Among a Plurality of Sockets

In claimed embodiments of the invention, a single thread or a pool of threads may be shared among multiple sockets, multiple event consumers or multiple tasks. For example, one thread may be shared by a number of sockets registered with a polltable.

Rueda specifies that each socket receives a separate thread for handling activity on that socket (paragraph 0077). Even in the case of multiple network adapters, it appears that separate threads are required for each socket. Applicant has reviewed Figure 7, Figure 29 and the text associated with Figure 29 (paragraphs 0250 through 0256), but no discussion of sharing a thread among a plurality of sockets was found. There is no mention of "individual agents" and nothing that contradicts the earlier discussion about using a separate thread for each socket.

In fact, Figure 7 includes a text box indicating that a new thread is begun for each new socket. Figure 29 is a block diagram of a network and makes no reference to threads or sockets.

Thus, Rueda teaches away from Applicant's invention.

VI. Selected Claims

A. **Claims 1-10**

Claim 1 has been modified to make it clearer that the sockets that are polled may include a single socket for simultaneously serving data to multiple clients, as well as separate control sockets for each client. Sagar-SYSCON describes JTunnels for serving trusted clients, but specifically requires a separate JTunnel for each client. Thus, Sagar-SYSCON (as well as the combination of Sagar-SYSCON, Cathey-AT&T and Rueda-Telecom-Research-Laboratory) cannot make claim 1 obvious.

In addition, and as described above, Sagar-SYSCON does not teach one to share a thread among multiple sockets serving multiple clients. Yet further, and also as described above, Sagar-SYSCON does not associate event consumers with sockets serving multiple clients.

Claim 2 was rejected on the basis of the same references as claim 1, plus Rueda-Telecom-Research-Laboratory. However, as described above, Rueda does not teach the sharing of a thread among sockets. It appears to teach one to use *separate* threads for each socket.

B. **Claims 11-14**

Applicants note that claims 11-14 were *again* rejected without indicating how elements of the claims are taught or suggested by the cited references. The elements of claims 11 and 14 have never been addressed in an office action, despite the final status of the current action. The 1.5 page recitation of claim elements on pages 10-11 of the February 3, 2005 office action do not include the elements of claims 11 and 14. Because specific grounds for rejecting claims 11-14 apparently cannot be found, applicants *again* request the rejection of claims 11-14 be withdrawn or that clear rejections be provided.

In particular, no reference to the “notifying” actions recited in claims 11 and 14 could be found in the Office Action. The notifying actions may involve notifying event consumers that are associated with sockets. As described in Section III.B, Sagar-SYSCON appears to associate “data streams” with pipes, not sockets. Therefore, Sagar-SYSCON does not associate sockets with “event consumers” that can handle events received at the sockets.

C. **Claims 15-23**

Claims 15-23 were cancelled without prejudice.

D. Claims 24-30

Claims 24-30 are new, and address a media server that simultaneously serves media to multiple clients through a single socket and handles events received through other sockets; the sockets are polled. The server also includes various program objects supporting the media serving and handling the events. Support for the new claims can be found, *inter alia*, in Figure 2 and at page 11, line 14 through page 14, line 22.

E. Claims 31-35

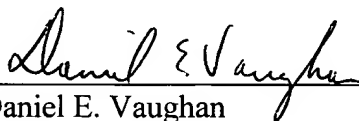
Claims 31-35 are new and address the handling of events at a media server that simultaneously serves media to multiple clients through a single socket. Support for the new claims can be found, *inter alia*, in Figure 2 and at page 11, line 14 through page 14, line 22.

CONCLUSION

No new matter has been added with the preceding amendments. It is submitted that the application is in suitable condition for allowance. Such action is respectfully requested. If prosecution of this application may be facilitated through a telephone interview, the Examiner is invited to contact Applicant's attorney identified below.

Respectfully submitted,

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